CLAIMS

1. An image data processing method receiving an input image data split into elementary units of information characterized in that it provides an output image data
5   with a particular image format depending on the requirements of a final device receiving such output image data by means of the following steps:

step 1)   identifying the final device which receives the output data;

10   step 2)   getting the input image data;

step 3)   from a repository of basic imaging operation selecting a plurality of operations to be performed on said input image data;

step 4)   creating a sequence of operations that links
15   and ordinate said plurality of operations;

step 5)   applying said sequence to the input image data, to create a plurality of layers of organized data of said input image data;

step 6)   assembling said plurality of layers into at
20   least an output layer which best fit the requirements of the identified final device;   and

step 7)   sending said assembled output layer to the identified final device.

2. An image data processing method according to claim
25   1, characterized in that in said steps 3 to 5, each sequence yields to an unique result.

3. An image data processing method according to claim 1, characterized in that said steps 5 and 6 specify, for each layer, what does it mean and what/how to
30   process the input image data within.

4. An image data processing method according to claim 1, characterized in that said repository comprises a compression function comprising in turn the G4 and JPEG compression methods.

5. An image data processing method according to claim 1, characterized in that said repository comprises an AND function used in combination with a black & white mask.

6. An image data processing method according to claim 1, characterized in that said repository comprises a re-mapping function selecting a portion of the input image data and distributing or re-scaling the information contained in such portion over the all image data space.

7. An image data processing method according to claim 6, characterized in that the content of the input image data is concentrated in said selected portion.

8. An image data processing method according to claim 1, characterized in that said repository comprises a thresholding function comprising in turn the following steps:

- calculation and extraction of an indicator of colorfulness of each pixel from the input data;

- selection and classification of output data on the basis of a threshold value or a rule for the colorfulness indicator.

9. An image data processing method according to claim 8, characterized in that an elementary unit of information of output data is considered ON if the colorfulness indicator of the corresponding elementary unit of information of the input data is above the threshold value and OFF if it is lower than the threshold value.

10. An image data processing method according to claim 8, characterized in that said threshold value is a fixed value.

11. An image data processing method according to claim 8, characterized in that said thresholding function uses a histogram of the color content of a processed document page in order to decide what the best threshold value for the document is.

12. A configurable image processing device to read and output an image data comprising input means to get an input image and output means for providing a particular output format depending on a final device that receive such output image data, selection means to select a particular group of atomic operations to be performed on the basis of said final device performance, so creating a specific sequence providing meaningful information for the selected device.

13. A configurable image processing device according to claim 12, characterized in that said device comprises at least the following major subsystems:

1. unit of processing called "transforms";

2. unit of work called "packets";

3. unit of transportation called "ports",

said subsystems providing for transformations of input image data, independent data representation and connections between the transforming units.

14. A configurable image processing device according to claim 13, characterized in that said transforms process data in a context independent fashion, that being there is not implied knowledge coupled between transforms influencing the means of process data.

15. A configurable image processing device according to claim 12, characterized in that it comprises a sequence of basic operations providing for a re-mapping architecture.

5   16. A configurable image processing device according to claim 15, characterized in that said re-mapping architecture comprises a RGB to HLS converter, connected to an HLS to RGB converter, by means of a series of an HLS filter and a stretch block.

10   17. A configurable image processing device according to claim 15, characterized in that said re-mapping architecture (5) comprises a RGB to HLS converter having a plurality of output channels, only one of said output channels being connected to series of a filter

15   and a stretch block, the re-mapping architecture further comprising an HLS to RGB converter receiving the original channels as outputted from the RGB to HLS converter and the channel as processed by means of said filter and stretch block.

20   18. An image data processing method according to claim 9, characterized in that if the elementary unit of information is considered OFF said elementary unit of information is reproduced in black and white.